

CLAIMS

1. (Currently Amended) A method of scheduling communications, comprising:
selecting from a piconet of terminals a plurality of terminal pairs each having a transmitting terminal and a corresponding receiving terminal;
constructing a piconet topology map, the piconet topology map comprising coordinate information concerning the terminal pairs;
obtaining path loss information for the terminal pairs, the path loss information comprising: available path loss information and estimated path loss information, the estimated path loss information being based upon the piconet map;
determining a target quality parameter for each of the receiving terminals; and
scheduling simultaneous signal transmissions from each of the transmitting terminals to its corresponding receiving terminal based upon the path loss information, the scheduling of the simultaneous transmissions including selecting a power level for each of the signal transmissions that satisfies the target quality parameter for each of the receiving terminals.
2. (Original) The method of claim 1 further comprising scheduling a different spreading code for each of the signal transmissions.
3. (Original) The method of claim 1 wherein the quality parameter comprises a carrier-to-interference ratio.
4. (Original) The method of claim 1 further comprising scheduling a data rate for each of the signal transmissions.
5. (Original) The method of claim 4 wherein the scheduled data rate for one of the signal transmissions from one of the transmitting terminals is used to determine the target quality parameter at the corresponding receiving terminal.

6. (Original) The method of claim 4 wherein the scheduled data rate for the signal transmissions is a function of the type of service requested for each of the terminal pairs.

7. (Original) The method of claim 1 further comprising broadcasting the schedule to each of the terminal pairs.

8. (Original) The method of claim 7 further comprising spreading the broadcast with a code.

9. (Currently Amended) The method of claim 1 wherein the ~~scheduling of the simultaneous transmissions is a function path loss information for the terminal pairs comprises [[of]]~~ path loss information from each of the transmitting terminals to each of the receiving terminals.

10. (Original) The method of claim 9 further comprising receiving the path loss information from one or more of the terminals.

11. (Cancelled)

12. (Cancelled)

13. (Currently Amended) The method of claim [[12]] 1, wherein ~~path loss information for the terminal pairs further comprises~~ receiving [[the]] path loss information from one or more of the piconet terminals.

14. (Cancelled)

15. (Original) The method of claim 1 further comprising transmitting one of the scheduled signal transmissions to a corresponding one of the receiving terminals.

16. (Original) The method of claim 1 further comprising receiving one of the scheduled signal transmissions from a corresponding one of the transmitting terminals.

17. (Currently Amended) A communications terminal, comprising:
a scheduler configured to select a plurality of terminal pairs from a piconet of terminals, the terminal pairs each having a transmitting terminal and a corresponding receiving terminal, to construct a piconet topology map, the piconet topology map comprising coordinate information concerning the terminal pairs, to obtain path loss information for the terminal pairs, the path loss information comprising: available path loss information and estimated path loss information, the estimated path loss information being based upon the piconet map, to determine a target quality parameter for each of the receiving terminals, and schedule simultaneous signal transmissions from each of the transmitting terminals to its corresponding receiving terminal based upon the path loss information, the scheduling of the simultaneous transmissions including selecting a power level for each of the signal transmissions that satisfies the target quality parameter for each of the receiving terminals.

18. (Original) The communications terminal of claim 17 wherein the scheduler is further configured to schedule a different spreading code for each of the signal transmissions.

19. (Original) The communications terminal of claim 17 wherein the quality parameter comprises a carrier-to-interference ratio.

20. (Original) The communications terminal of claim 17 wherein the scheduler is further configured to schedule a data rate for each of the signal transmissions.

21. (Original) The communications terminal of claim 20 wherein the scheduled data rate for one of the signal transmissions from one of the

transmitting terminals is used to determine the target quality parameter at the corresponding receiving terminal.

22. (Original) The communications terminal of claim 20 wherein the scheduled data rate for each of the signal transmissions is a function of the service requested for each of the terminal pairs.

23. (Original) The communications terminal of claim 17 further comprising a transceiver configured to broadcasting the schedule to each of the terminal pairs.

24. (Original) The communications terminal of claim 23 further comprising a signal processor configured to spread the broadcast with a code.

25. (Cancelled)

26. (Currently Amended) The communications terminal of claim [[25]] 1 further comprising a transceiver configured to receive the path loss information from one or more of the terminals and memory configured to store the received path loss information, and wherein the scheduler is configured with access to the memory.

27. (Cancelled)

28. (Currently Amended) The communications terminal of claim [[27]] 1 wherein the scheduler is further configured to schedule the simultaneous transmissions as a function of path loss information from each of the transmitting terminals to each of the receiving terminals.

29. (Original) The communications terminal of claim 28 further comprising a transceiver configured to receive the path loss information from one or more of the piconet terminals, and memory configured to store the received path loss information, and wherein the scheduler is configured with access to the memory.

30. (Cancelled)

31. (Original) The communications terminal of claim 17 further comprising a transceiver configured to transmit one of the scheduled signal transmissions to a corresponding one of the receiving terminals.

32. (Original) The communications terminal of claim 17 further comprising a transceiver configured to receive one of the scheduled signal transmissions from a corresponding one of the transmitting terminals.

33. (Currently Amended) A communications terminal, comprising:

means for selecting a plurality of terminal pairs from a piconet of terminals, the terminal pairs each having a transmitting terminal and a corresponding receiving terminal;

means for constructing a piconet topology map, the piconet topology map comprising coordinate information concerning the terminal pairs;

means for obtaining path loss information for the terminal pairs, the path loss information comprising: available path loss information and estimated path loss information, the estimated path loss information being based upon the piconet map;

means for determining a target quality parameter for each of the receiving terminals; and

means for scheduling simultaneous signal transmissions from each of the transmitting terminals to its corresponding receiving terminal based upon the path loss information, the scheduling of the simultaneous transmissions including selecting a power level for each of the signal transmissions that satisfies the target quality parameter for each of the receiving terminals.

34. (Currently Amended) A [[C]]computer readable-medium media embodying a program of instructions executable by a computer program to perform a method of scheduling communications, the method comprising:

code for causing a computer to select a plurality of terminal pairs from a piconet of terminals, the terminal pairs each having a transmitting terminal and a corresponding receiving terminal;

code for causing a computer to construct a piconet topology map, the piconet topology map comprising coordinate information concerning the terminal pairs;

code for causing a computer to obtain path loss information for the terminal pairs, the path loss information comprising: available path loss information and estimated path loss information, the estimated path loss information being based upon the piconet map;

code for causing a computer to determine a target quality parameter for each of the receiving terminals; and

code for causing a computer to schedule simultaneous signal transmissions from each of the transmitting terminals to its corresponding receiving terminal based upon the path loss information, the scheduling of the simultaneous transmissions including selecting a power level for each of the signal transmissions that satisfies the target quality parameter for each of the receiving terminals.